

ACNET and Shot Setup

- **ACNET**

- navigation, plotting data, recording downtime

- **Shot Setup**

- Terminology & Overview
- Checklist & flowchart

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**Ace Training
June 18th 2003**

ACNET

- What is ACNET ?
- How to start/run ACNET.
- Navigating in ACNET.
- Plotting data in ACNET.
- Downtime logger

What is ACNET ?

- Accelerator Network
- Developed by the FNAL Controls Group
- Monitor information throughout the accelerator
 - Beam currents
 - Luminosity
 - Losses
- Separate devices for Tevatron, Main Injector, experiments

- Runs on VAXes (!) and can create a virtual console on machines running X-Windows.
- If interface seems unusual, it might have to do with the fact that ACNET is about the same age as younger ACEs.
- There is an ACNET console in first floor counting room if you want to practice. Do NOT experiment outside of CDF procedures. It is possible to turn off the TEV from ACNET.
- ACNET consoles are physically connected to a Beams Division network.

Starting ACNET

- ACNET runs on PCs on the West side of the Control Room - racks 2RR03G and 2RR05B - and in 1st floor counting room.
- Should already be running
- Automatically starts after reboot
- If it crashes or is unresponsive, do this get it going again:
 - **START**
 - Programs
 - Acnet
 - Cnsrun

3 sets of 5 windows

- PA - Primary Applications
- PA: Touch Panel
- GxSA - Secondary Applications
- GxPA:1 - Graphics Window
- GxPA:2 - Graphics Window

3 Groups - A, B, C

Additional Utilities Window

Primary Applications Window

EXPERIMENT-RELATED PROGRAMS			◆Cmds◆◆Pgm_Tools◆
----- CDF -----		--- MiniBooNE ---	-Electron Cooling-
2 SVX LOSS MONITOR	25 E898 BOONE PARAMS	48 ECooling Sequencer	
3 Silicon Parameters	26 MBooNE Multiwire	49 ECOOLING MULTIWIRES	
4 SVX TEST BARREL	27 MB BPM/BLM Plots	50 EC BPM/BLM Plots	
5 B0 BACKGROUNDS	28 MINIBOONE VACUUM	51 ELECTRON COOL VAC	
6 RADMON	29 MINIBOONE PERMIT	52 ELECTRON COOL/NEF	
7 Monitor Store	30 MINIBOONE HORN	53 ELECTRON COOLING	
8 CDF DOWNTIME LOG	31 MBooNE Sequencer	54 Pelletron Params	
9 EXAMINE DATABASE	32 MULTIWIRES SFIT	55	
10	33	56	
11 E-Z WRITER	34	57	
12	35	58	
13	36	59	
----- D0 -----		----- NuMI -----	----- A0 Lab -----
15 DZERO PARAMETERS	38 NUMI PARAMS	61 FNPL PARAMS	
16 D0 SMT LOSS MON.	39	62	
17	40	63	
18	41	64	
19	42		- Miscellaneous -
20	43	66	
21	44	67	
22 EXPORT MANAGER	45	68 E868 APEX PARAMS	
23 SHOW UPDATE TIMES	46	69 E864 MINIMAX	

Navigating in ACNET

- You will type wherever the cursor is.
- Move the cursor over the character where you want to type.
- Left mouse button works like "return" (text changes color).
- On index page, either click on the page number, or type in Top Left Corner.
- To get back to the index page, type letter of desired index page in the Top Left Corner.

Many Index Pages

B - Booster

C - Collider

D - Diagnostic/Utility

E - Experimental

I - Main Injector

L - Linac

P - PBar

R - Recycler

T - Tevatron

Some Useful and Essential Pages

- C65 Collider Luminosity
- D44 Lumberjack Plotter
- E8 Downtime Data Logger
- E11 E-Z Writer - great for making livetime plots
- E2 SVX Loss Monitor
- E6 Silicon Radiation Monitoring
- E7 Monitor Store

C65 - Collider Luminosity

```

C65  LUMINOSITY/LOSS TOTALS          SET      D/A      A/D      Com-U  ◆COPIES◆
-<FTP>+  *SA◆ X-A/D  X=TIME          Y=C:B0PLOS,C:B0ALOS,C:LOSTP ,C:LOSTPB
COMMAND ---- Eng-U  I= 0          I= 0          , 0          , 0          , 0
-< 1>+  One+ AUTO  F= 1200        F= 50000      , 50000      , 50000      , 50000

C:B0PLOS      B0 Proton Losses                2771      Hz
C:B0ALOS      B0 Antiproton Losses             173.2     Hz
C:B0ILUM      B0 Luminosity                    18.98     E30
C:B0TLUM      B0 Integrated Lum E              524.4     nb-1
C:B0LLUM      B0 Live Luminosity               18.71     E30
C:B0TLIV      B0 Live Luminosity Total         474.5     nb-1
C:B0C13       Tight Min Bias Trigge           509905    Hz
C:B0PAGC      Proton Abort Gap coin2/4         93.68     HZ
T:STORE       Present Store Number            2694      2694

!D0FLTL AND D0FZTL ARE EQUIVALENT (MDC 4/25/01)
C:D0FLTL      D0 total Fast Z Lum  17.44      17.43      17.43     E30
C:D0FZTL      D0 total Fast Z Lum  17.44      17.43      17.43     E30
C:D0PHTL      D0 total prot bunch  41051      41037      41037     Hz
C:D0AHTL      D0 total pbar bunch  2895       2888      2888      Hz
!LUMINOSITY AVG
C:LUMAVG      Average Luminosity              18.2      E30
-C:FBIANG     TFBI Pbar NaroGate Inten        0         575.2     1E09
C:LOSTP       CDF LOST PROTONS                5923      hz
C:LOSTPB      CDF LOST PBARS                 -51.56     hz
  
```

Important quantities to Monitor/Plot in ACNET

Losses

C:BOPLOS, C:LOSTP - B0 proton losses
C:BOALOS, C:LOSTPB- B0 anti-proton losses
C:BOPBSM - Proton Abort gap rate
C:BOABSM - Anti-Proton abort gap rate
C:BORAT4 - Abort gap gated losses in CMP

Tevatron

T:ERING - Tevatron energy
T:L1COLI - Tevatron Electron Lens Current
T:RFSUM - Tev RF current
T:SBDMS - Avg. Longitudinal Bunch Length
T:RFSUMA - Anti-Proton RF Sum

Luminosity

C:BOILUM - B0 instantaneous luminosity
C:BOLLUM - Live instantaneous luminosity
C:BOTLUM - Integrated luminosity
C:BOTLIV - Live integrated luminosity
C:BOQ5 - Current in B0 quads

SVX

E:SVRAD(0-3)
E:SVBLA(0,1), SVBLB(0,1)

www-cdfonline.fnal.gov/acnet/acnetplots.html
www-cdfonline.fnal.gov/acnet/definitions.html

Plotting Data

Two ways to plot

- Real-time plots
 - Fast-time plotter
 - Accessible from E-Z Writer E11
- Plots of stored data
 - Lumberjack data logger
 - Plot from page D44
 - Devices listed on page D43
 - X = Time, Y = Device value

Real time plotting

E11 E-Z Writer ◆Pgm_Tools◆
 *SA◆ X-A/D X=TIME Y=C:B0PLOS,C:B0ALOS,C:LOSTP,C:LOSTPB
 ---- Eng-U I= 0 I= 0 , 0 , 0 , 0
 One+ AUTO F= 1200 F= 50000 , 50000 , 50000 , 50000

mr loss	TEV LOSS	tev lum	cmuo	svx
up	down	strange	charm	bottom
e	nue	mu	numu	tau

TIME	Y=C:CDFLV1	C:CDFLV2	C:CDFLIV,T:RFSUMA
0	I= 0	, 0,	0, 0
1200	F=40000	, 600	, 1 , 80000

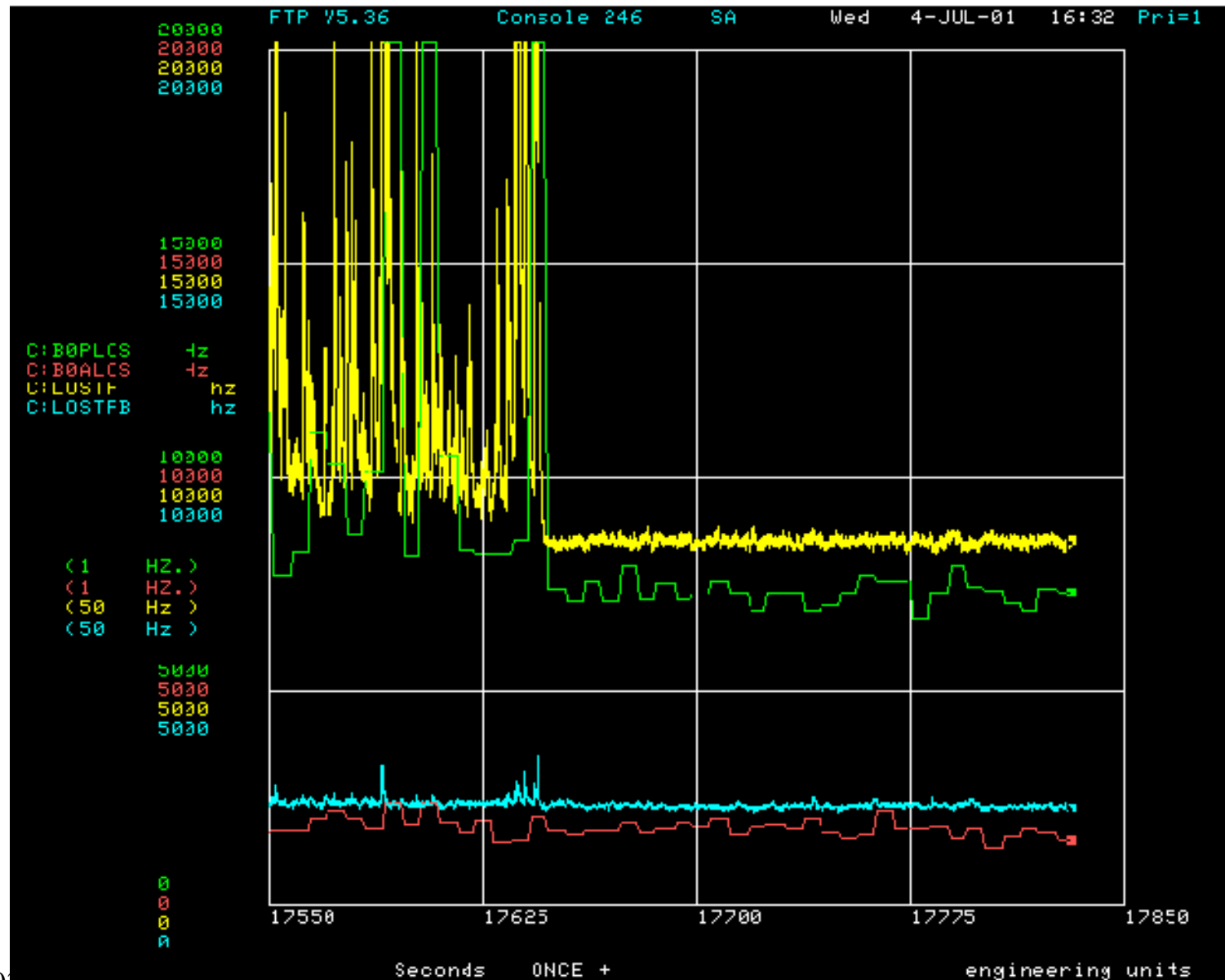
TIME	Y=C:B0PLOS,C:B0ALOS,C:LOSTP,C:LOSTPB
0	I= 0, 0, 0, 0
1200	F= 50000 , 50000 , 50000 , 50000

TIME	Y=C:B0ILUM,C:B0LLUM,C:B0TLUM,C:B0TLIV
0	I= 0 0 , 0, 0
300	F= 30 , 30 , 1000 , 1000

D 77 S 67 M 77 T102 L 67 P 73 B 67 T107 M 78 C 67

Messages

Real time plotting



Plots of stored data

D44: Lumberjack Datalogger

```

D44  Lumberjack Datalogger
Plot Title = ♦Shift Lum
X=TIME      Y=C:BOTLIV      ,C:BOTLUM      ,C:B0ILUM      ,C:B0LLUM      ,
            I= 0            , 0            , 0            , 0            ,
            F= 1000         , 1000         , 40           , 40           ,
            .CDF            .CDF            .CDF            .CDF            .
            NONE           NONE           NONE          NONE          .
            ♦Params♦       ♦Params♦       ♦Params♦       ♦Params♦
            24622          24223          24633          24638      Read
            24622          24223          24633          24638      Plotted

            Y=
            I=-10          , -10          , -10          , -10          ,
            F= 100000       , 100000      , 10           , 10           ,
            .CDF            .CDF            .CHL_B         .Mau           .
            NONE           NONE           NONE          NONE          .
            ♦Params♦       ♦Params♦       ♦Params♦       ♦Params♦
                                                    Read
                                                    Plotted

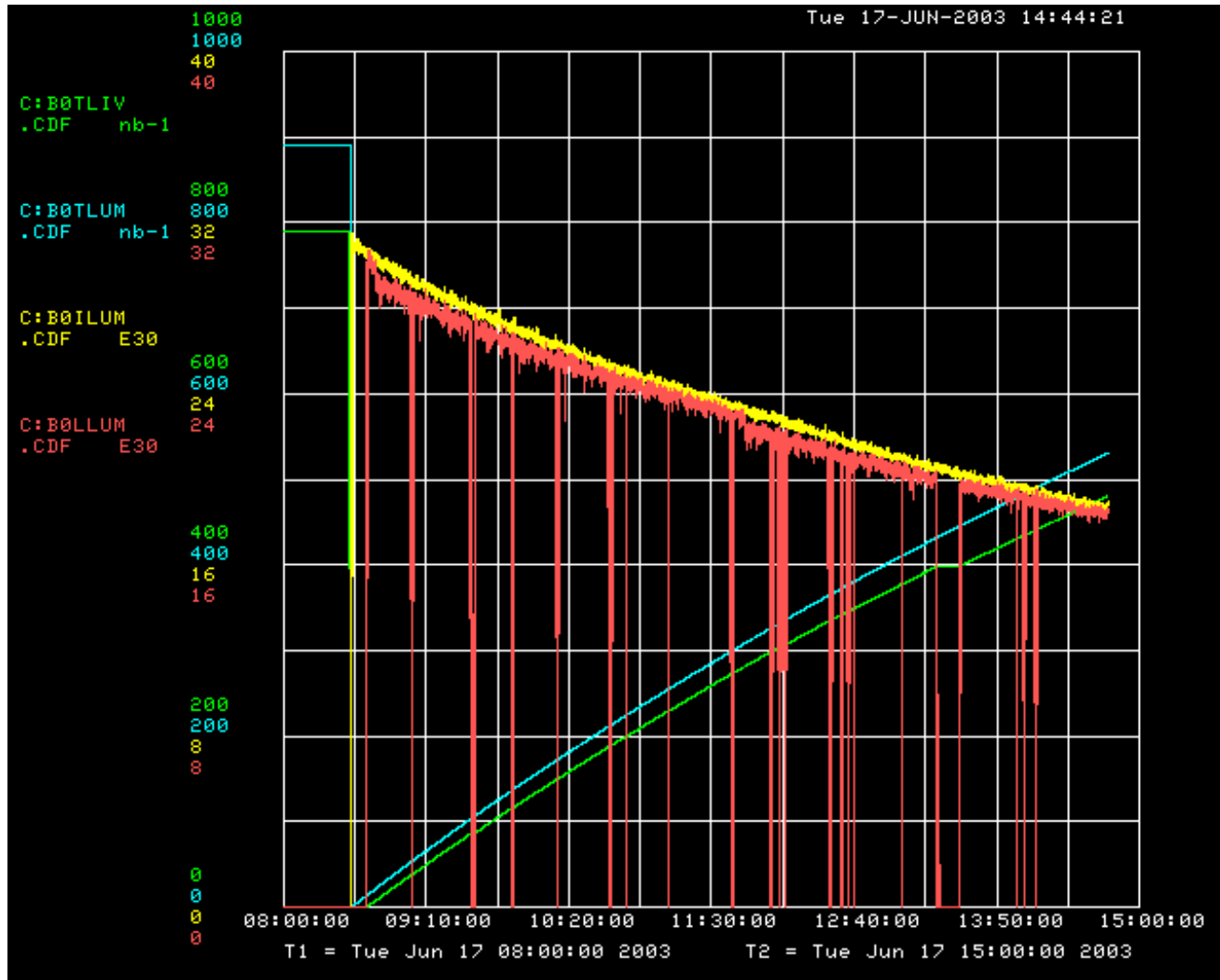
T1=Tu 17-JUN-2003 08:00:00 T2=Tu 17-JUN-2003 15:00:00 ♦Inc♦ ♦T2 Now♦ ♦Interval♦
♦Skip♦      ♦X Divs 12♦      ♦Interpolation♦      ♦Integrate♦      ♦Editor♦
♦Trace♦     ♦Y Divs 10♦      ♦Previous♦      ♦Next♦      ♦Average♦      ♦Fold♦
♦Symbol♦     ♦Overwrite♦      ♦Recall♦      ♦Save♦      ♦StdDev♦      ♦LJScanJob♦
            ♦SDA♦      ♦Node♦      ♦List Data♦      ♦Copy♦      ♦Fit Equations♦
Data Source ♦CDF (DUE39 )♦      ♦Export Data♦♦Enable♦♦Calc Points♦
♦All Device Plot♦List = ♦ 1♦

Messages
CNS 159, node=48, record # 29 - saved
CNS 159, node=48, record # 42 - recalled
CNS 159, node=48, record # 28 - recalled
1:3 of 6

```

Plots of stored data

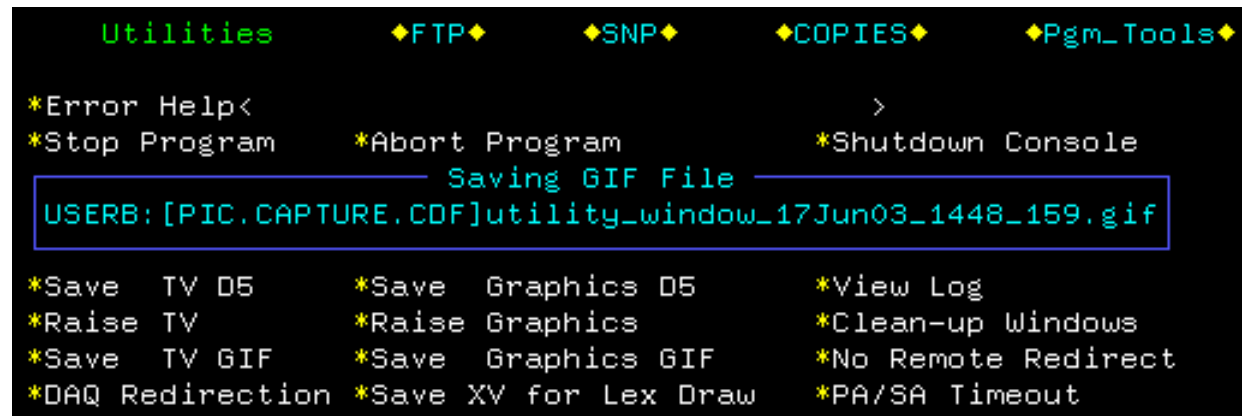
D44: Lumberjack Datalogger



End of shift summary

Want summary of luminosity, svx rads in e-log

- Should have lumberjack plots already formatted
- Use **RECALL** to bring up saved format
- Save file to disk (save as gif)
 - Use utilities window



```
Utilities      ♦FTP♦      ♦SNP♦      ♦COPIES♦      ♦Pgm_Tools♦

*Error Help<                                     >
*Stop Program      *Abort Program      *Shutdown Console

Saving GIF File
USERB:[PIC.CAPTURE.CDF]utility_window_17Jun03_1448_159.gif

*Save TV D5      *Save Graphics D5      *View Log
*Raise TV      *Raise Graphics      *Clean-up Windows
*Save TV GIF      *Save Graphics GIF      *No Remote Redirect
*DAQ Redirection *Save XV for Lex Draw      *PA/SA Timeout
```

- Save to gif
 - Save in **[PIC.CAPTURE.CDF]**
- Import to e-log

Page E8 - CDF Downtime data Logger

- When data-taking stops for more than 2 minutes, an entry is generated automatically.
- Shift crew must edit to categorize downtime (HV, DAQ, Trigger, Level3, etc etc)
- Downtime logger category names
 - www-cdfonline.fnal.gov/acnet/downtime_names.html
- VERY important to categorize downtime according to the underlying cause. (Just because the DAQ system stops taking data doesn't mean DAQ is the cause.)
- Allows for downtime accounting later

Page E8 - CDF Downtime data Logger

F8 Downtime Log Entry And Edit. Pgm Tools

Command Auto Entry Statistics Plot Manager Functions

-<28-OCT-2001>+ 28-OCT-01 08:48:19

Mail Down Time Log Find

Dn	Up	System	Mode	Description of Problem
From 30-SEP-2001 12:06 To 07-OCT-2001 01:15				
06-OCT-2001 Saturday				
0527	0531	TEVSTUD	H	flying wire
0558	0613	TRIGLVL2	H	12 studies
0614	0623	TRIGLVL2	H	12 studies
0627	0632	TEVSTUD	H	flying wire
0647	0656	TRIGLVL2	H	12 studies
0659	0703	TRIGLVL2	H	12 studies
0705	0715	NOCATEG	H	b0svx07 gave BT0
0727	0731	TEVSTUD	H	flying wire
1247	1251	TEVSTUD	H	flying wire
2255	2305	SCRAPERS	H	scrapping
2307	2311	SCRAPERS	H	scrapping
2347	2352	TEVSTUD	H	flying wire
07-OCT-2001 Sunday				
0035	0039	DAQOTHR	H	busy timeout
0048	0053	TEVSTUD	H	flying wire
0058	0102	COT HV	H	COT trip in SL7
0115	0145	FEVME	H	fib03 problem followed by CMP HV setting change

90:106 of 106

Messages

Click AUTO ENTRY to bring up pending entries

F8 Downtime Log Entry And Edit. Pgm Tools
◆Command◆ ◆Auto Entry◆ ◆Statistics◆ ◆Plot◆ ◆Manager Functions◆

-<28-OCT-2001>+ 28-OCT-01 08:48:46

◆Mail◆ Down Time Log ◆Find◆

Dn	Up	System Mode	Description of Problem
06-OCT-2001 Saturday			
0527	0531	TEVSTUD H	flying wire
0558	0613	TRIGLVL2 H	12 studies
0614	0623	TRIGLVL2 H	12 studies
0627	0632	TEVSTUD H	flying wire
0647	0656	TRIGLVL2 H	12 studies
0659	0703	TRIGLVL	
0705	0715	NOCATEG	
0727	0731	TEVSTUD	
1247	1251	TEVSTUD	11-OCT-2001 09:14 11-OCT-2001 10:10
2255	2305	SCRAPER	
2307	2311	SCRAPERS H	scraping
2347	2352	TEVSTUD H	flying wire
07-OCT-2001 Sunday			
0035	0039	DAQ0THR H	busy timeout
0048	0053	TEVSTUD H	flying wire
0058	0102	COT HV	H COT trip in SL7
=>0115	0145	FEVME H	fib03 problem followed by CMP HV setting change

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Messages

◆Add◆ ◆Delete◆ ◆Quit◆
Down Time Up Time

Click ADD and choose an entry from the list

F8

Downtime Log Entry And Edit.

Pgm Tools

CommandAuto EntryStatisticsPlotManager Functions

SaveNowPendNew EntryQuit

down:11-OCT-2001 0914up:11-OCT-2001 1010Downtime <PENDING>Name_Help6

Dn	Up	System	Mode	Description of Problem
06-OCT-2001 Saturday				
0527	0531	TEVSTUD	H	flying wire
0558	0613	TRIGLVL2	H	12 studies
0614	0623	TRIGLVL2	H	12 studies
0627	0632	TEVSTUD	H	flying wire
0647	0656	TRIGLVL2	H	12 studies
0659	0703	TRIGLVL2	H	12 studies
0705	0715	NOCATEG	H	b0svx07 gave BT0
0727	0731	TEVSTUD	H	flying wire
1247	1251	TEVSTUD	H	flying wire
2255	2305	SCRAPERS	H	scraping
2307	2311	SCRAPERS	H	scraping
2347	2352	TEVSTUD	H	flying wire
07-OCT-2001 Sunday				
0035	0039	DAQOTHR	H	busy timeout
0048	0053	TEVSTUD	H	flying wire
0058	0102	COT HV	H	COT trip in SL7
=>0115	0145	FEVME	H	fib03 problem followed by CMP HV setting change

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Messages

Click NAME HELP to list the major categories.
Click on category to get a list of subcategories.

F8 Downtime Log Entry And Edit. Pgm Tools

◆Command◆ ◆Auto Entry◆ ◆Statistics◆ ◆Plot◆ ◆Manager Functions◆

◆Save◆ ◆Now◆ ◆Pend◆ New Entry ◆Quit◆

down:11-OCT-2001 0914 up:11-OCT-2001 1010 Downtime < >◆Name_Help◆ 6

p

Dn	Up	System Mode	Description of Problem
06-OCT-2001		Saturday	
0527	0531	TEVSTUD	H flying wire
0558	061		Pick a group please...
0614	062	ACCELERATOR	
0627	063	DATA ACQUISITION	
0647	065	GAS PROBLEMS	
0659	070	HIGH VOLTAGE	
0705	071	MAGNETS	
0727	073	OPERATION	
1247	125	TRIGGER	
2255	230	CALIBRATION	
2307	231	MISCELLANEOUS	
2347	235	COMMENTS	
07-OCT-200		TESTS	
0035	003		
0048	0053	TEVSTUD	H flying wire
0058	0102	COT HV	H COT trip in SL7
=>0115	0145	FEVME	H fib03 problem followed by CMP HV setting change

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Messages

n

Possible categories under ACCELERATOR.

Click on one to copy it to the DOWNTIME field.

F8 Downtime Log Entry And Edit. Pgm Tools

◆Command◆ ◆Auto Entry◆ ◆Statistics◆ ◆Plot◆ ◆Manager Functions◆

◆Save◆ ◆Now◆ ◆Pend◆ New Entry ◆Quit◆

down:11-OCT-2001 0914 up:11-OCT-2001 1010 Downtime < >◆Name_Help◆ 6

Dn	Up	System Mode	Description of Problem
06-OCT-2001		Saturday	
0527	0531	TEVSTUD	H flying wire
0558	061		Pick a group please...
0614	062	ACCELERATOR	
0627	063	DATA ACQUISITION	
06		ACCEL	
06		MRLOSS	main ring losses
07		TEVLOSS	tevatron losses
07		SCRAPERS	waiting for stable beam
12		TEVSTUD	Tevatron Studies
22			
2307	231	MISCELLANEOUS	
2347	235	COMMENTS	
07-OCT-200		TESTS	
0035	003		
0048	0053	TEVSTUD	H flying wire
0058	0102	COT HV	H COT trip in SL7
=>0115	0145	FEVME	H fib03 problem followed by CMP HV setting change

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Messages

Possible categories under HV.
Click on one to copy it to the DOWNTIME field.

F8 Downtime Log Entry And Edit. Pgm Tools

Command Auto Entry Statistics Plot Manager Functions

Sa HV t

dow PEM HV plug e-m high voltage p 6

PHA HV plug hadron high voltage

FEM HV forward e-m high voltage p

Dn FHA HV forward hadron high voltage

06-0 CES HV central strip high voltage

05 VTPC HV vertex TPC high voltage

05 CMU HV central muon high voltage

06 CDT HV central drift tubes high voltage

06 COT HV central tracking chamber high voltage

06 FTC HV forward tracking chamber high voltage

06 IMU HV forward muon high voltage

07 ALL HV turn on/off HV

07 SVX HV silicon vertex detector voltage

12 CPR HV central prevadiator high voltage

22 CMX HV muon extension high voltage

23 CMP HV central muon upgrade high voltage

23 HVCNTRL HV control problems

07-0 CCAL HV Central cal HV

00 PCAL HV Plug cal HV

00 BMU HV Barrel muon HV

00 ISL HV Intermediate silicon HV

=>01 CLC HV Luminosity counter HV

BSC HV Beam shower counter HV

TOF HV Time-of-flight HV

n

Type in comment then click SAVE to commit the new entry

F8 Downtime Log Entry And Edit. Pgm Tools

Command Auto Entry Statistics Plot Manager Functions

Save Now Pend New Entry Quit

down:11-OCT-2001 0914 up:11-OCT-2001 1010 Downtime <COT HV >Name_Help 6

type the comment explaining the downtime here

Dn	Up	System	Mode	Description of Problem
06-OCT-2001 Saturday				
0527	0531	TEVSTUD	H	flying wire
0558	0613	TRIGLVL2	H	12 studies
0614	0623	TRIGLVL2	H	12 studies
0627	0632	TEVSTUD	H	flying wire
0647	0656	TRIGLVL2	H	12 studies
0659	0703	TRIGLVL2	H	12 studies
0705	0715	NOCATEG	H	b0svx07 gave BT0
0727	0731	TEVSTUD	H	flying wire
1247	1251	TEVSTUD	H	flying wire
2255	2305	SCRAPERS	H	scraping
2307	2311	SCRAPERS	H	scraping
2347	2352	TEVSTUD	H	flying wire
07-OCT-2001 Sunday				
0035	0039	DAQ0THR	H	busy timeout
0048	0053	TEVSTUD	H	flying wire
0058	0102	COT HV	H	COT trip in SL7
=>0115	0145	FEVME	H	fib03 problem followed by CMP HV setting change

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Messages

When a new store goes in, enter as COMMENT.
Not an auto entry, so use ADD ENTRY

F8 Downtime Log Entry And Edit. Pgm Tools

Command Auto Entry Statistics Plot Manager Functions

Save Now Pend New Entry Quit

down:15-JAN-2002 1619 up:dd-mm-yyyy hhmm Downtime < >Name_Help 1

Dn	Up	System Mode	Description of Problem
14-JAN-2002		Monday	
2214	2217	CMU HV H	PENDING
=>2222	225		Pick a group please...
2341	234	ACCELERATOR	
2346	235	DATA ACQUISITION	
15-J			COMMENTS
00	STORE	Store info. down = time at low beta. up = end store	
00	STORCOM	Store comments.	
00	STRSHFT	Start shift; crew list	
01	ENDSHFT	End shift; Coop lump, CDFlump, downtime, beamtime	
=>02	NOTES	notes for record	
03			
0341	035	COMMENTS	
0424	042	TESTS	
0442	045		
0501	0505	HVCNTRL H	cmp cmx trip
0505	0511	HVCNTRL H	cmp cmx trip
=>0613	0633	HVCNTRL H	cmp cmx trip

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Messages

DOWN time is when scraping is complete (t_0 for start of the store). Fill the UP time at the end of store. **COMMENT** should include store # and initial luminosity.

F8 Downtime Log Entry And Edit. Pgm Tools

Command Auto Entry Statistics Plot Manager Functions

Save Now Pend New Entry Quit

down:15-JAN-2002 1619 up:dd-mm-yyyy hhmm Downtime <STORE >Name_Help 1

Store 999 - initial lum 1.5E31

Dn	Up	System Mode	Description of Problem
14-JAN-2002 Monday			
2214	2217	CMU HV H	PENDING
=>2222	2255	NOCATEG H	
2341	2345	CMU HV H	
2346	2356	TRIGLVL2 H L2 Done	timeout
15-JAN-2002 Tuesday			
0012	0018	HVCNTRL H	cmp,cmx trip
0025	0029	HVCNTRL H	CMX, CMP trips
0031	0050	HVCNTRL H	CMX, CMP trips due to high losses
0103	0120	STARTUP H	starting new run
=>0237	0259	STARTUP H	starting new run in order to include muon
0319	0330	HVCNTRL H	CMP CMX trip
0341	0351	STARTUP H	starting new run in order to include silicon
0424	0429	HVCNTRL H	cmx cmp trip
0442	0452	STARTUP H	new run startup
0501	0505	HVCNTRL H	cmp cmx trip
0505	0511	HVCNTRL H	cmx trip
=>0613	0633	HVCNTRL H	cmp cmx trip

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Messages

ACNET resources

<http://www-cdfonline.fnal.gov/acnet/acnet.html>

Web Tutorials by John Yoh, et al.

- www-cdfonline.fnal.gov/acnet/acnetplots.html
- 4 *fresh and exciting* tutorials.

Aces' Shift ACNET Plots

- www-cdfonline.fnal.gov/acnetplots/acnet.html -

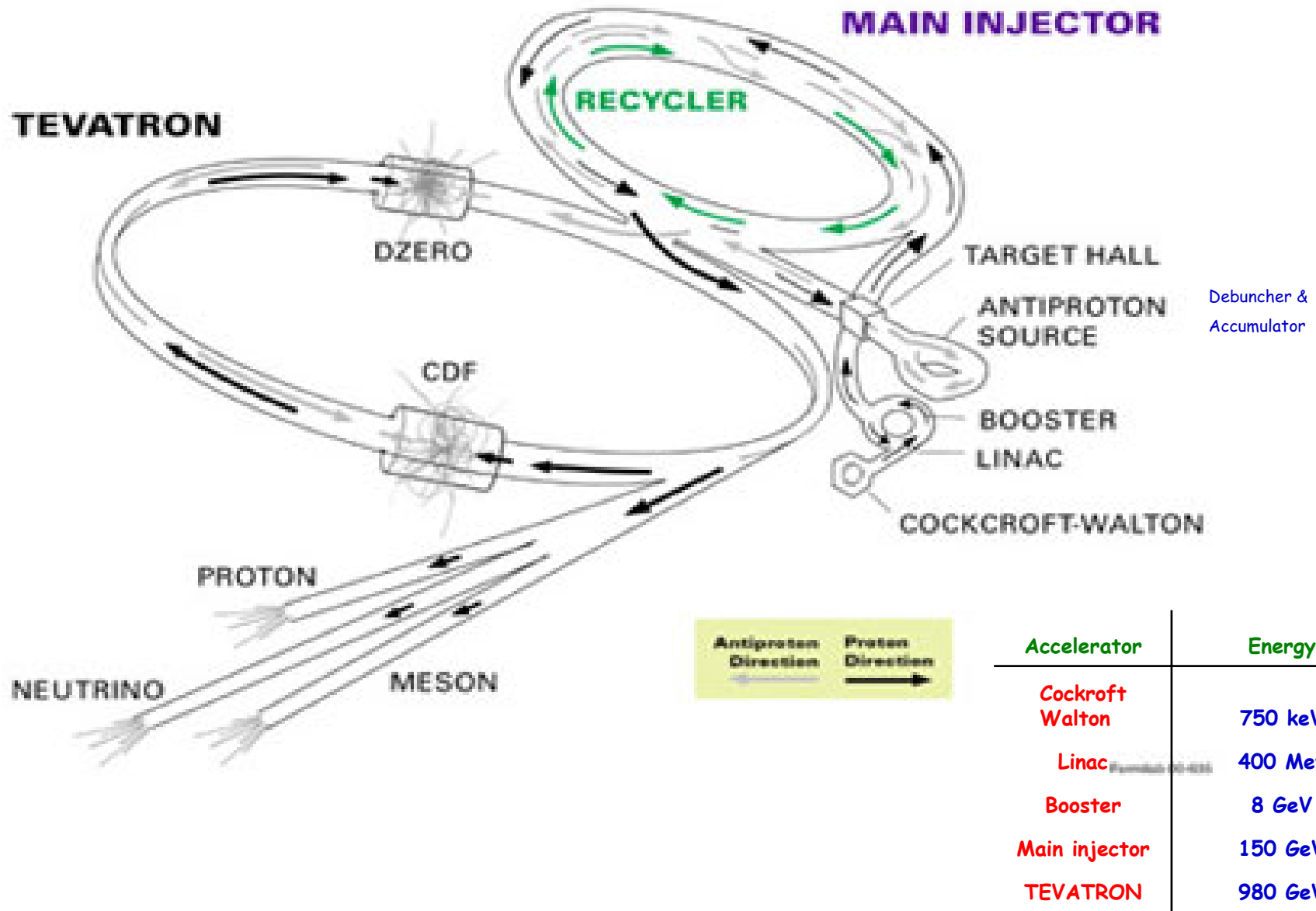
Accelerator Division Web Pages

- www-bd.fnal.gov/acnet/
- Information about all acnet pages

Shift crew resources:

- Bug your overlap ACE buddy, operations manager, JJ, and Steve Hahn !

SHOT SETUP



Shot Setup Terminology

- **Stacking** - Production and collection of antiprotons into the Accumulator. This operation can take place independent of the Tevatron.
- **Shot Setup** - the sequence of events leading to antiproton shots. Typically takes about 2 hours. Ideally would take much less.
- **Shot** - the injection of antiprotons from the Accumulator into the Main Injector and on into the Tevatron in preparation for colliding beams operation.
- **Store** - when there is a steady p , $pbar$ beam present in the Tevatron
 - Numbered sequentially
 - Typically lasts 12-24 hours
 - Can sometimes end abruptly
- In the best of times, CDF takes data continually with a 1-2 hour break once a day to end a store, take some calibrations, and start the next store.

Shot Setup Overview

- At the end of a store:
 - The Main Control Room (MCR) should notify CDF in advance of planned beam dumps.
 - End data taking run
 - Before the store is dumped, ramp down high voltage (allow 5 minutes)
 - SciCo notifies MCR that CDF is ready for store to be terminated.

Shot setup checklist

- **Shot Setup Checklist** is comprehensive set of instructions to follow in preparation for a shot and data taking. The **Checklist** also has brief instructions on what the Monitoring Ace does during a store and at end of a store.
- **Special Instructions** - Always check the "White Board" for exceptions and special instructions to follow.
- Current version of checklist is linked from DAQ Ace help page. Please tell Ops Manager, JJ, and Kaori about anything that is confusing in the checklist or anything that needs updating.
- **Shot Setup Flowchart** helps DAQ Ace minimize lost beam time during startup.

Shot setup checklist

Please print out at least one copy at beginning of every shot setup.

CDF Shot Setup Checklist v2.8

date_____ Store#_____

http://www-cdfonline.fnal.gov/opshelp/ShotSetupChecklist_v28.html
Revised 16 June-2003

Instructions:

- Use this checklist during shot setup. File completed this form in a Shot Setup folder.
- Record entries in the shift elog.
- Recording times in the boxes is useful when communicating information during shift changes.

1) Before a store (Many steps can be performed simultaneously.)

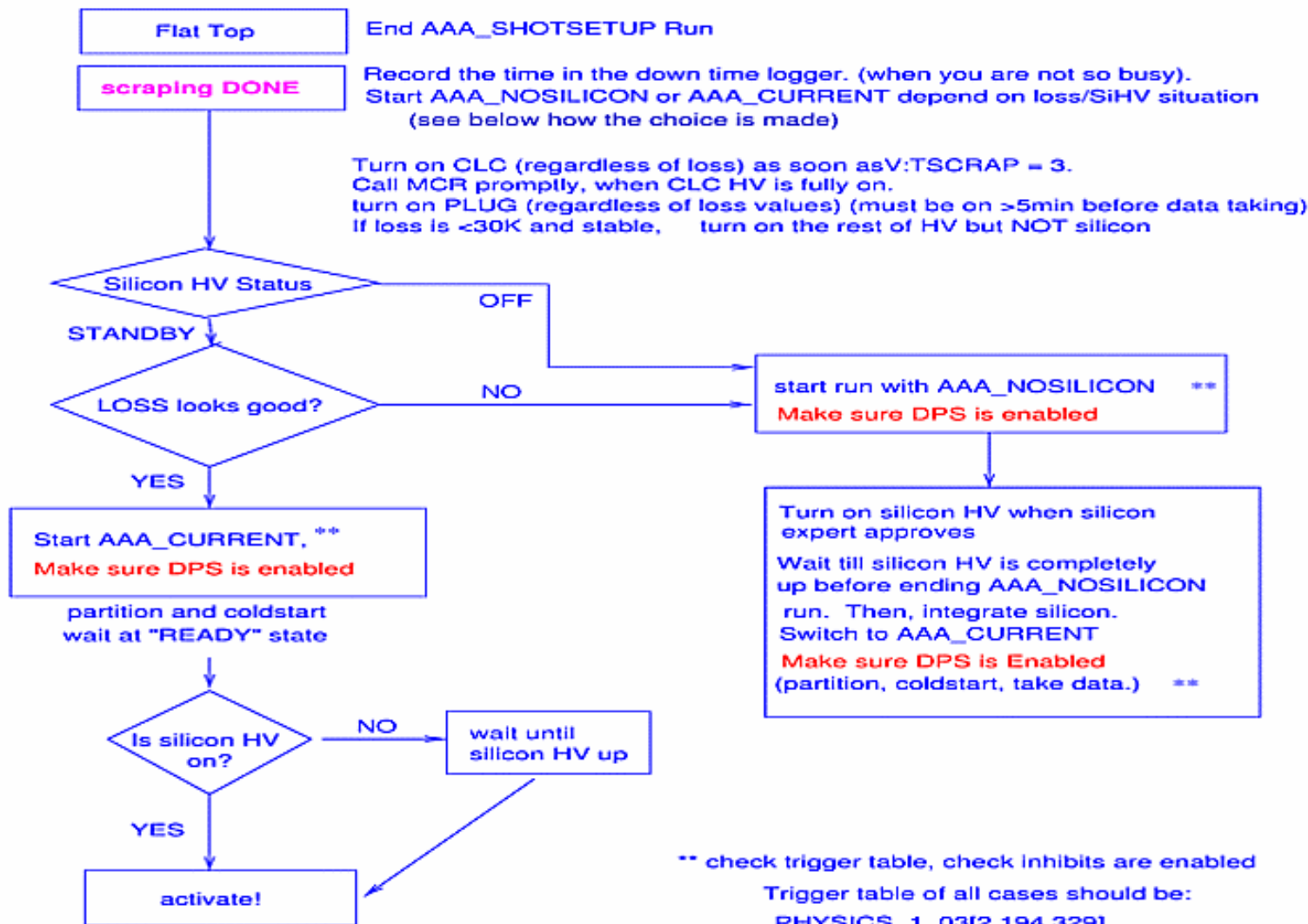
Etc...

shotsetup flow chart (with Silicon)

- * when antiproton loading starts, page silicon (218-8227)
- * should be running AAA_SHOTSETUP run.

DPS (dynamic prescale) should be ENABLED for all physics runs.

Auto HRR should be ENABLED for all physics runs from the Error Handler GUI.



Last update: Dec. 13 2002. Kaori

What to watch in ACNET

When the shot is going in...

C:BOPLOS B0 proton losses from BSC (Hz)

C:BOALOS B0 pbar losses from BSC (Hz)

C:LOSTP - proton losses fast response (Hz)

C:LOSTPB- pbar losses fast response (Hz)

C:BOILUM - B0 delivered instantaneous luminosity ($\text{E30 cm}^{-2} \text{ s}^{-1}$)

C:BOQ5 - Current in low beta quads (Amps)

T:ERING - Tevatron energy (GeV)

T:IBEAM - Tevatron beam current (E12)

E:SVRAD(0-3) - SVX integrated radiation dose (rad)

E:SVBLA(0,1), SVBLB(0,1) - SVX instantaneous rates (rad/s)

Andy Hocker will talk about Silicon radiation monitoring in Thursday's training session.

During the store also monitor...

C:BOILUM - Delivered instantaneous luminosity ($\text{E30 cm}^{-2} \text{ s}^{-1}$)

C:BOLLUM - Live instantaneous luminosity ($\text{E30 cm}^{-2} \text{ s}^{-1}$)

C:BOTLUM - Integrated delivered luminosity (nb^{-1})

C:BOTLIV - integrated live luminosity(nb^{-1})

What to watch in ACNET

To measure losses in silicon detectors

E:SVRADO - west inner BLM integrated radiation dose (rad)

E:SVRAD1 - west outer BLM integrated radiation dose (rad)

E:SVRAD2 - east inner BLM integrated radiation dose (rad)

E:SVRAD3 - east outer BLM integrated radiation dose (rad)

E:SVBLA1 - west inner BLM instantaneous loss rate (rad/s)

E:SVBLA2 - west outer BLM instantaneous loss rate (rad/s)

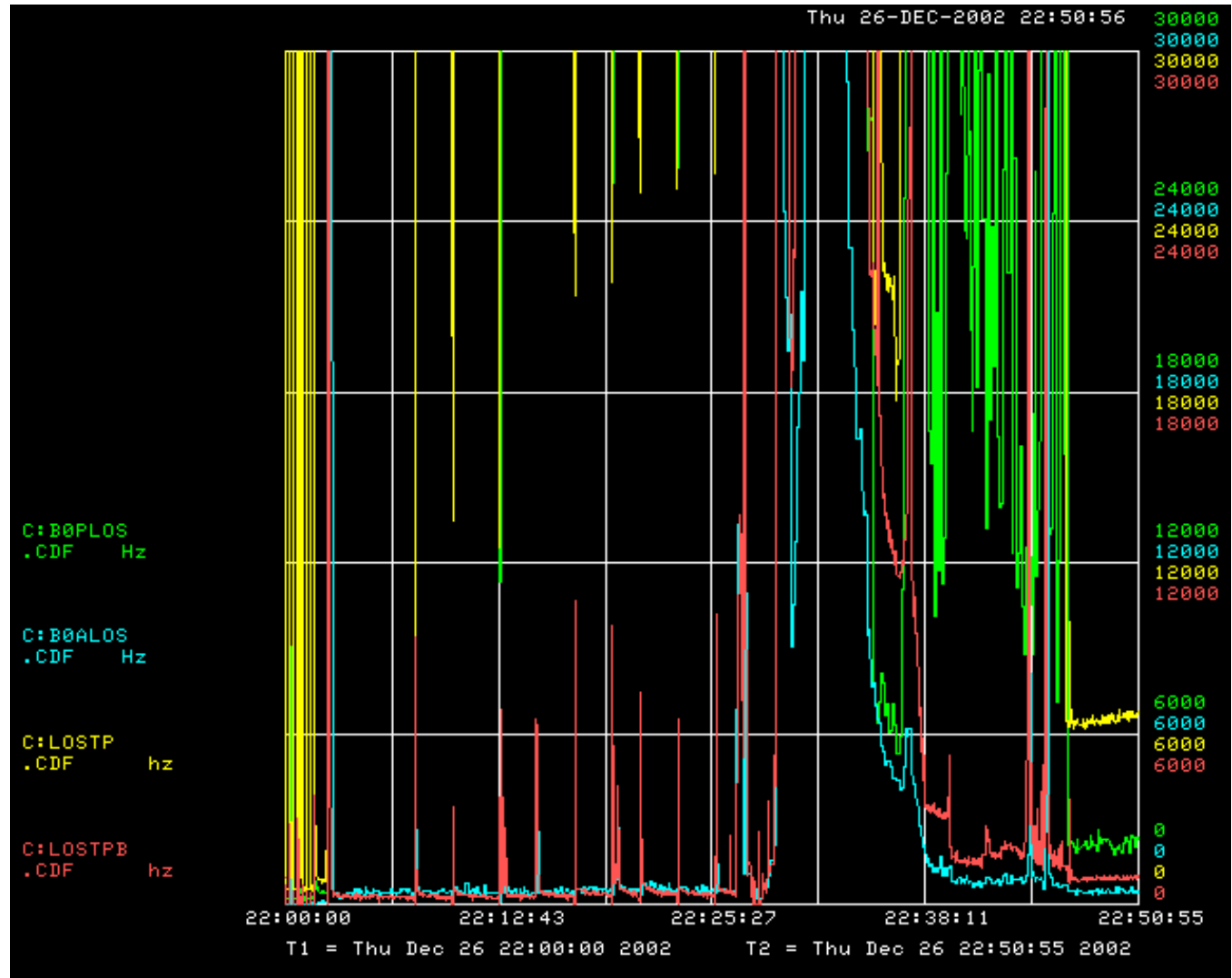
E:SVBLB1 - east inner BLM instantaneous loss rate (rad/s)

E:SVBLB2 - east outer BLM instantaneous loss rate (rad/s)

Acnet page E2 allows you to monitor the current values of the instantaneous and integrated dose rates

Store 2105: losses during shot setup (ACNET page E11 E-Z writer)

C:B0PLOS
C:B0ALOS
C:LOSTP
C:LOSTPB



Resources

Shot setup checklist:

www-cdfonline.fnal.gov/ops-help/ShotSetupChecklist_current.html

Shot setup flowchart:

www-cdfonline.fnal.gov/ops-help/shotsetup_flow.ps

Helpful Beams Info:

www-bdnew.fnal.gov/operations/rookie_books/rbooks.html

www-bd.fnal.gov/runII/index.html